

SEQUENCE LISTING

<110> IGARD-LIEPKALNS, Christine  
MALET, Jacques  
RAVASSARD, Philippe

<120> POLYPEPTIDES OF THE "BASIC-HELIX-LOOP-HELIX" bHLH  
FAMILY, CORRESPONDING NUCLEIC ACID SEQUENCES

<130> ST96042A-US

<140> US 9/331,356  
<141> 1999-06-18

<150> FR96/15651  
<151> 1996-12-19

<150> PCT/FR97/02368  
<151> 1997-12-19

<160> 28

<170> PatentIn Ver. 2.1

<210> 1  
<211> 1460  
<212> DNA  
<213> Rattus norvegicus

<400> 1  
gcaggttagcg agaggagcag tccctgggcc cccgttgctg attggcccgt ggcacaggca  
60  
gcagccccggc aggcacgctc ctggtccggg cagagcagat aaagcgtgcc aggggacaca  
120  
cgattagcag ctcagaagtc cctctgggtc tcaccactgc acagaggccg aggacccct  
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ccgagcttct ttgctgcctc cagacgcaat ttactccagg cgagggcgcc tgcagctcag  
240  
caaaaacttcg aagcgagcag aggggttcag ctatccaccc ctgcttgact ctgaccaccc  
300  
gcagctctct gttcttttga gcccgaggta actaggtaac atttaggaac ctccaaagg  
360  
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420  
actgtcacac ccccccttcca ttttttccca acctcaggat ggccgcctcat cccttggatg  
480  
cgccccaccat ccaagtgtcc caagagaccc agcaaccctt tcccgagcc tcggaccacg  
540  
aagtgctcag ttccaaattcc acccccaccta gccccactct cgtaccgagg gactgctccg  
600  
aagcagaagc aggtgactgc cgagggacat cgaggaagct ccgtgcgcgg cgccggagg  
660  
gcaacaggcc caagagcgag ttggcactga gcaagcagcg acgaagccgg cgcaagaagg  
720  
ccaacgaccg ggagcgcaac cgcatgcaca accttaactc cgccgtggat gcgctgcgcg  
780

gtgtcctgcc cacccccc gatgacgcca aacttacaaa gatcgagacc ctgcgcttcg  
840  
cccacaacta cattttggca ctgactcaga cgctgcgcac agcggaccac agcttctacg  
900  
gccccgagcc ccctgtgccc tgtggggagc tgggaagccc gggagggggc tccagcggcg  
960  
actggggctc tatctactcc ccagttccc aagctggtag cctgagcccc acagcctcat  
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tggaggagtt ccctggccctg caggtgccc gctcccatc ctgtctgctc cgggcaccc  
1080  
tggtgttctc agacttcttg tgaaggccc aaacaggccc tggcggtgg gcgctggcag  
1140  
aaaggagggg agtcagagct gtctgaaatg gaaggttagtg gaggcactcg agcatctcgc  
1200  
cccttctggc tttcattagt caggtccctg atttaaccag gattcgcaca gttccttgc  
1260  
gctgtgcgtg cacaaggac attgcaggct gatctcctct taaccctcct cagtgtggcc  
1320  
acctcaaact cccgctccaa gcagaggaga gccgtagcac taaatagttg ggagactccc  
1380  
atacttcctg gtgactccgc cctttcaa atctgcgggc ctccaaccac cgcttctcc  
1440  
agagtgacct aatccagtt  
1460

*Mb*  
*A*  
<210> 2  
<211> 24  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: PCR Primer  
  
<220>  
<223> n = Inosine

<400> 2  
aatkhgmngn agcgcnndkcg cryg  
24

<210> 3  
<211> 24  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: PCR Primers

<400> 3  
ggcsrdtytc agggtsybga yctt  
24

<210> 4  
<211> 25

~~<212> DNA  
<213> Artificial Sequence~~

<220>  
~~<223> Description of Artificial Sequence: PCR Primers~~

<400> 4  
aacaccttaact ccgcgcgtgga tgcgc  
25

~~<210> 5  
<211> 18  
<212> DNA  
<213> Artificial Sequence~~

<220>  
~~<223> Description of Artificial Sequence: PCR Primers~~

<400> 5  
cgcgggtgtcc tgccccacc  
18

~~<210> 6  
<211> 6  
<212> DNA  
<213> Artificial Sequence~~

<220>  
~~<223> Description of Artificial Sequence: E box~~

*Ans*  
*M*  
<400> 6  
caggttg  
6

<210> 7  
<211> 6  
<212> DNA  
<213> Artificial Sequence

<220>  
~~<223> Description of Artificial Sequence: Mutated E box~~

<400> 7  
tccgttg  
6

<210> 8  
<211> 214  
<212> PRT  
<213> Rattus norvegicus

<400> 8  
Met Ala Pro His Pro Leu Asp Ala Pro Thr Ile Gln Val Ser Gln Glu

1 5 10 15  
Thr Gln Gln Pro Phe Pro Gly Ala Ser Asp His Glu Val Leu Ser Ser  
20 25 30  
Asn Ser Thr Pro Pro Ser Pro Thr Leu Val Pro Arg Asp Cys Ser Glu  
35 40 45  
Ala Glu Ala Gly Asp Cys Arg Gly Thr Ser Arg Lys Leu Arg Ala Arg  
50 55 60  
Arg Gly Gly Arg Asn Arg Pro Lys Ser Glu Leu Ala Leu Ser Lys Gln  
65 70 75 80  
Arg Arg Ser Arg Arg Lys Lys Ala Asn Asp Arg Glu Arg Asn Arg Met  
85 90 95  
His Asn Leu Asn Ser Ala Leu Asp Ala Leu Arg Gly Val Leu Pro Thr  
100 105 110  
Phe Pro Asp Asp Ala Lys Leu Thr Lys Ile Glu Thr Leu Arg Phe Ala  
115 120 125  
His Asn Tyr Ile Trp Ala Leu Thr Gln Thr Leu Arg Ile Ala Asp His  
130 135 140  
Ser Phe Tyr Gly Pro Glu Pro Pro Val Pro Cys Gly Glu Leu Gly Ser  
145 150 155 160  
Pro Gly Gly Ser Ser Gly Asp Trp Gly Ser Ile Tyr Ser Pro Val  
165 170 175  
Ser Gln Ala Gly Ser Leu Ser Pro Thr Ala Ser Leu Glu Glu Phe Pro  
180 185 190  
Gly Leu Gln Val Pro Ser Ser Pro Ser Cys Leu Leu Pro Gly Thr Leu  
195 200 205  
Val Phe Ser Asp Phe Leu  
210

<210> 9  
<211> 1330  
<212> DNA  
<213> Homo sapiens

<400> 9  
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60  
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120  
tgctcatcgc tctctattct tttgcgcgg tagaaaggta atatggag gccttcgagg  
180  
gacgggcagg ggaaaagaggg atcctctgac ccagcgaaaa ctgggaggat ggctgtttt  
240

gttttttccc acctagcctc ggaatcgccgg actgcgccgt gacggactca aacttaccct  
300  
tccctctgac cccgcccgtag gatgacgcct caaccctcgg gtgcgccccac tgtccaagtg  
360  
acccgtgaga oggagcggtc cttccccaga gcctcggaaag acgaagtgac ctgccccacg  
420  
tccgccccgc ccagccccac tcgcacacccg gggaaactgac cagaggcggg agagggaggc  
480  
tgccgagggg cccccgagaa gctccggca cggcgccggg gacgcagccg gcctaagagc  
540  
gagttggcac tgagcaagca gcgcacggagt cggcgaaaga aggccaacga ccgcgagcgc  
600  
aatcaaatgc acgacacctaa ctcggcactg gacgcctgc gcggtgtcct gcccacccctc  
660  
ccagacgacg cgaagctcac caagatcgag acgctgcgt tcgcccacaa ctacatctgg  
720  
gcgcgtgactc aaacgctgacg datagcggac cacagcttgt acgcgcgtgaa gccgcggcg  
780  
ccgcactgacg gggagctggg cagcccgaggc ggtccccccg gggactgggg gtccctctac  
840  
tccccagtct cccaggctgg cagctgagt cccgcgcgt cgctggagga ggcacccggg  
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ctgcgtggggg ccacctcttc cgcctgcttg agcccgaggca gtctggcttt cttagatttt  
960  
ctgtgaaagg acctgtctgt cgctggctg tgggtgctaa gggtaaggaa gagggaggaa  
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gccgggagcc gtagagggtg gccgacggcg gcggccctca aaagcacttg ttccctctgc  
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1140  
tccccggccc tccgagccgc gccaacgcac gcaacccttg ctgcgtccccg cgcaagtgg  
1200  
gcattgcaaa gtgcgctcat tttaggcctc ctctctgcca ccacccata atccattca  
1260  
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1320  
ccctcaactca  
1330

<210> 10  
<211> 214  
<212> PRT  
<213> Homo sapiens

<400> 10  
Met Thr Pro Gln Pro Ser Gly Ala Pro Thr Val Gln Val Thr Arg Glu  
1 5 10 15

Thr Glu Arg Ser Phe Pro Arg Ala Ser Glu Asp Glu Val Thr Cys Pro  
20 25 30

Thr Ser Ala Pro Pro Ser Pro Thr Arg Thr Pro Gly Asn Cys Ala Glu  
35 40 45

Ala Glu Glu Gly Gly Cys Arg Gly Ala Pro Arg Lys Leu Arg Ala Arg  
50 55 60

Arg Gly Gly Arg Ser Arg Pro Lys Ser Glu Leu Ala Leu Ser Lys Gln  
65 70 75 80

Arg Arg Ser Arg Arg Lys Lys Ala Asn Asp Arg Glu Arg Asn Arg Met  
85 90 95

His Asp Leu Asn Ser Ala Leu Asp Ala Leu Arg Gly Val Leu Pro Thr  
100 105 110

Phe Pro Asp Asp Ala Lys Leu Thr Lys Ile Glu Thr Leu Arg Phe Ala  
115 120 125

His Asn Tyr Ile Trp Ala Leu Thr Gln Thr Leu Arg Ile Ala Asp His  
130 135 140

Ser Leu Tyr Ala Leu Glu Pro Pro Ala Pro His Cys Gly Glu Leu Gly  
145 150 155 160

Ser Pro Gly Gly Pro Pro Gly Asp Trp Gly Ser Leu Tyr Ser Pro Val  
165 170 175

Ser Gln Ala Gly Ser Leu Ser Pro Ala Ala Ser Leu Glu Glu Arg Pro  
180 185 190

Gly Leu Leu Gly Ala Thr Ser Ser Ala Cys Leu Ser Pro Gly Ser Leu  
195 200 205

Ala Phe Ser Asp Phe Leu  
210

*ab*  
*AL*

<210> 11  
<211> 18  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 11  
caacgaccgg cagcgcaa  
18

<210> 12  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 12  
gcccgatgt agtttgtggc gaag  
24

~~<210> 13  
<211> 60  
<212> DNA  
<213> Artificial Sequence~~

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 13  
atcggtgaga ctcgttaccag cagagtacg agagagacta cacggtaactg gnnnnnnnnn  
60

~~<210> 14  
<211> 20  
<212> DNA  
<213> Artificial Sequence~~

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 14  
agacgacgacg aagctcacca  
20

~~<210> 15  
<211> 24  
<212> DNA  
<213> Artificial Sequence~~

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 15  
gctcaccaag atcgagacgc tgcg  
24

~~<210> 16  
<211> 25  
<212> DNA  
<213> Artificial Sequence~~

<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 16  
atcggtgaga ctcgttaccag cagag  
25

<210> 17  
<211> 25  
<212> DNA  
<213> Artificial Sequence

*Am A*

<220>  
<223> Description of Artificial Sequence: PCR Primer  
  
<400> 17  
tcgtaccage agagtcacga gagag  
25

<210> 18  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
  
<400> 18  
ctgccaggct gggagactg  
19

<210> 19  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
  
<400> 19  
ctgcatctat ctaatgctcc tctcgctacc tgctcactct gcgtgacatc  
50

<210> 20  
<211> 25  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
  
<400> 20  
gatgtcacgc agagttagca ggtag  
25

<210> 21  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: PCR Primer  
  
<400> 21

agcctgggag actggggagt aga  
23

<210> 22  
<211> 24  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 22  
agagttagca ggttagcgaga ggag  
24

<210> 23  
<211> 22  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 23  
cgctatgcgc agcgtttgag tc  
22

<210> 24  
<211> 25  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 24  
cctcggaccc cattctctct tcttt  
25

<210> 25  
<211> 24  
<212> DNA  
<213> Artificial Sequence  
  
<220>  
<223> Description of Artificial Sequence: PCR Primer

<400> 25  
tgagttaggg tagggcgacc caag  
24

<210> 26

<211> 15  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Probe

<400> 26  
aggaagctcc gggca  
15

<210> 27  
<211> 1381  
<212> RNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Probe

<400> 27  
gggcgaaauug ggcccggacgu cgcaugcucc cggccggccau ggcccgcccc uuuugagugag  
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gguaggggcga cccaagacgg uggggcggcuc cggccggua gugcuaccau ucuaguauuc  
120  
uuugaaugggg auuauggggu gguggcagag aggaggccua aaaugagcgc acuuugcaau  
180  
gcccacuuucg cgccggcagc agcaaggguu gcgugcguug gcgcggcucg gagggccgg  
240  
gaaugaaccc agccuaccgc ccccguggag gccugggccc gcaggggguc agcuagggag  
300  
aagcagaagg aacaagugcu uuugagggcc ggcgcgcucu acggcuucccg  
360  
gcucccuucc ucuccuuac ccuuagcacc cacagcccag cgacagacag guccuuucac  
420  
agaaaaaucug agaaaagccag acugccuggg cucaaggcagg cggaagaggu ggcccccagc  
480  
agcccgccguc gcuccuccag cgacgcggcg ggacucaggc ugccagccug ggagacuggg  
540  
gaguagaggg acccccaguc cccggggggc cccgcugggc ugcccagcuc cccgcagugc  
600  
ggcgccggcg gcuccagcgc guacaaggcug ugguccgcua ugcccagcgu uugagucagc  
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gcccagaugu aguugugggc gaagcgcagc gucucgaucu ugugagacuu cgccgcuc  
720  
ggaaaggugg gcaggacacc ggcgcaggcg uccagugccg aguugagguc gugcauucga  
780  
uugcgcucgc ggcgcuggc cuucuuucgc cgacuccgc ggcgcuggcu cagugccaa  
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gacguggggc aggucacuuuc gcuuucccgag gcuuucccgagg aggaccgcuc cgucucac  
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ucacuuggac agugggcgca cccgaggguu gagggcgucau ccuacggcg ggcgcagg  
1080

aagguaagu uugaguccgu cacggcgca g uccgcgauuc cgaggcuagg ugaaaaaaa  
1140  
caaaaacagc cauccucca gcccccgug ggucagagga ucccucuuuc cccugcccgu  
1200  
ccucgaagg ccucaaaua uuaccuuucu accggcgca aagaauagag agcgaugagc  
1260  
agcgagggcc guggggagcu cagcggcgu cuggucgcca aguucagcug agcugcaggc  
1320  
gccccgccc gggaguuugcc ccagccccaa aggagaaaag aagagagaau gggguccgag  
1380  
g  
1381

<210> 28  
<211> 1427

<212> RNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Probe

<400> 28

agcuaugcau ccaacgcguu gggagcucuc ccauaugguc gaccugcagg cggccgcgaa  
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uucacuagug auuccucgga ccccauucuc ucuucuuuuuc uccuuugggg cuggggcaac  
120  
ucccaggcg gggcgccugc agcucagcug aacuuggcga ccagaagccc gcugagcucc  
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ccacggccu cgcugcuau cgucucuau ucuuuugcgc cgguaagaaag guauauuuug  
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gaggccuucg agggacgggc aggggaaaga gggauccucu gacccagcgg gggcugggag  
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cacuguccaa gugacccgug agacggagcg guccuucccc agagccucgg aagacgaagu  
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ccugccacc uucccagacg acgcgaagcu caccaagauc gagacgcugc gcuucgc  
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960  
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1020

*M*  
*M*

uuucucagau uuucugugaa aggaccuguc ugucgcuggg cuguggugc uaagguaag  
1080  
ggagagggag ggagccggga gccguagagg guggccgacg gcggcgccc ucaaaagcac  
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1200  
aggcuggguu cauuccccgg cccuccgagc cgcccaacg cacgcaaccc uugcugcugc  
1260  
ccgcgcgaag ugggcauugc aaagugcgcu cauuuuaggc cuccucucug ccaccacccc  
1320  
auaauccaa ucaaagaaua cuagaauggu agcacuaccc ggccggagcc gcccacccguc  
1380  
uugggucgcc cuacccucac ucaaaucgaa uuccccggc cgccaug  
1427